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TITLE: Cox Strategists Put Tomorrow on Line
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SPECIAL SECTION

With technology advancing faster than, say, a high-speed modem, the future is always a present concern for some people.

Meet Dave Bialis and Jeff Storey of Cox Communications of Oklahoma City.

Bialis is general manager of Cox Communications' Oklahoma City operations, and Storey is general manager of the firm's Cox Fibernet of Oklahoma City subsidiary.

Their jobs are to act as "futurists," attempting to anticipate the technology that will change the way people communicate and are entertained.

"It's kind of our job to kind of set this strategic path for Cox Oklahoma City, " Storey said, "which means focusing on the business we're doing today. The way to get ready for the future is to improve our service today and improve our network today."

To prepare for life in the year 2000, Cox Communications has invested heavily in fiber optics, building a 450-mile network of high-capacity lines in Oklahoma City.

Cox plans to bring a myriad of telecommunications services to Oklahoma City consumers using fiber optics in conjunction with 2,000 miles of existing coaxial cable that links most homes in the city.

Cox Fibernet already is providing telecommunications services to businesses, Storey said.

With the Telecommunications Act of 1996 sweeping aside barriers to the telephone business, the Cox Communications futurists are peering eagerly into future.

As a facilities-based telecommunications service provider - which means they've built their network to homes and offices - Cox plans a three-pronged assault on future competition: voice, data and video communications.

All this from the company that brings cable television programming to more than 108,000 Oklahoma City residents. Less than a year ago, it dropped the word "cable" from its name and replaced it with "communications."

Cox officials see their firm providing:

- Voice transmission.

This is the telephone business as we have known it.

Cox plans to join the fray with its own service, using its high-capacity "hybrid fiber coax" (HFC) network.

"We believe that there will be lower prices, cheaper overall, both long distance and local for phone service," Bialis said.

Cox said it will be a major player, in part because it will not be just another reseller of local phone service.

"Resellers provide price, primarily," Bialis said. "What a new wire can do, which is what we have, is new services, new technology, and thirdly, investment in the community. We're going to continue to build the network ."

Cox also is investing in a wireless "personal communications services" network to compete with cellular technology.

"You have a phone number basically for wherever you go," Bialis said. "The capacity of the PCS will drive the price down because you will be able to use it as a regular phone. You're not going to have the worry that it's going to cost you 'X' amount per minute. "

- Data transmissions.

Bialis sees "high speed access, hundreds and hundreds of times faster than the (telephone) wire using a cable modem."

"That is not that far away. We see PC users talking to one another with video that will be as clear as you can get it on a personal computer. That capacity of that HFC with a cable modem is incredible."

Bialis and Storey like to compare their data network to a pipe used to carry water. Theirs is "eight to nine feet" in diameter. The old copper wire technology has the diameter of "a straw," Storey said.

That "bandwidth" will promote growth of the Internet, as well as other applications such as home banking, energy-use monitoring of homes for utilities and telecommuting, with people at home accessing office networks through high-speed modems.

- Video services.

These are services that people have been hearing about for years: movies on demand through a cable modem.

"We think maybe four years from now you will be able to order up a movie at your command with stop and start capabilities at your home through the two-way fiber-coax," Bialis said. "There are interactive capabilities, video telephone and more programming choices."

For some Oklahoma Cityans, this high-tech future may be less than a year away.

Cox has joined European electronics manufacturer Ericsson Inc. in a venture in which they will test service to a limited number of consumers using the Cox fiber-coax network and Ericsson equipment.

The trial is expected to begin in March 1997 and will include telecommunications services, cable programming, Internet and private data networks.

It also will include digital interactive services such as video on demand and energy-use monitoring, all of which shows how quickly technology is changing everyday life.

"This will be a market that we believe will have competitive services for telecommunications," Bialis said. "That business is nothing short of a paradigm change for the ages."

ORGANIZATION: COX COMMUNICATIONS INC; COX
INDUSTRY: MEDIA; BROADCASTING
OTHER TERMS: COUNTDOWN 2000 VISIONS OF TOMORROW I OKLAHOMA TRADE BUSINESS INDUSTRY REAL ESTATE SPECIAL SECTION

News Media Report
The Daily Oklahoman
OKC
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COX 4
REPLACE WITH T-CF 1

Cox Raises Rates, Adds Channels

By Charles T. Jones
Staff Writer

Cox Cable is boosting its monthly basic service rates, while adding several new channels to its line-up, company officials said Friday.

The Oklahoma City cable TV provider is raising rates for its "complete basic service," which offers up to 56 channels, by $1.67 per month, bringing the total to $26.46.

The increases are linked to inflation, increased programming costs and the addition of new channels.

Among the new basic-cable offerings will be Comedy Central; TV Land and "News Now 53," which will be continuous local news coverage in a partnership between Cox and KWTV Channel 9 in Oklahoma City.

It won't be live news coverage, but repeats of the television station's latest news broadcasts, Cox spokeswoman Meribeth Sloan said.

"We did a survey last year ... and the No. 1 service nonsubscribers wanted was news availability, 24 hours — people are working odd schedules now," Sloan said.

In addition, Cox is offering a $4.95 "Variety Service" that includes Turner Classic Movies, the Independent Film Channel, the History Channel, Encore and ESPN2.

The now-regulated cable TV industry is allowed to boost its rates annually, based on inflation and programming costs, Sloan said.

"We could have raised our rates almost $1 more and chose not to, and that's under federal guidelines," she said.

Cable -

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Multimedia Cable spokesman Jim Back said his company has yet to determine how its rates may change.

"We haven't really figured out what sort of change in rates there will be for Multimedia, and we won't know for a while yet," he said. "It certainly isn't going to happen any time soon."

Multimedia is the franchised cable television operator in 26 Oklahoma communities, serving about 107,000 customers.

Cox, meanwhile, was informed last month that it has won first place in the inaugural J.D. Power & Associates Residential Cable Satisfaction Study.

The independent research firm is known nationally for its automotive-quality awards. This year it mounted its first customer-satisfaction survey in the cable industry.

Cox Communications, the nation's fourth-largest cable TV provider with a national customer base of 3.2 million, took top honors in service cost, billing service and reception quality.

Cox Cable has about 115,000 customers in Oklahoma City. Its other markets include San Diego and Orange County, Calif.; Phoenix and New Orleans.

"We try to provide the best programming, and for the right reasons, and that's the customer. So, we weren't really surprised," at the J.D. Power award, Sloan said, "but we're very happy."

CURRENT DATA
COX HOMEPAGE
116,081

Southwestern Bell Telephone

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News Media Report

Publication/Station THE SUNDAY OKLAHOMAN

Location Oklahoma City

Page(s) Bus. pg. 1 Date/Time 11-5-95

Comments

Cox 1

Cable Firm Changes Name, Widens Scope

By Jim Stafford
Staff Writer

The folks who bring cable TV programming to 110,000 Oklahoma City subscribers have removed the word "cable" from their name.

Cox Cable of Oklahoma City is now Cox Communications, which reflects a corporate name change when the local firm's parent company went public last February. Cox Communications Inc., whose stock is traded on the New York Stock Exchange, is based in Atlanta.

"Today is not that much different from a month ago or three months ago, to be honest," said Dave Bialis, general manager of Cox Communications' Oklahoma City operation. "It's just now we're announcing it."

But the name change does imply a lot for future services.

"In general, what it really means is that our goals in the future are to be a provider of telecommunications services — video, voice and data," Bialis said. "That's why I think the 'Communications' makes a lot of sense."

The new Cox Communications logo slices one of the legs of the X in "Cox" into thirds, each representing a facet of the communications industry.

For now, all the players in the cable TV, telephone and data industries are awaiting enactment of a sweeping telecommunications bill to bring competition into various industries.

At some point, cable companies expect to be providing local telephone service, video entertainment services and data services such as a link to the Internet.

Of course, they likely will face competition for all those services.

Cox already has its Cox Fibernet in place, providing local telecommunications services to business customers with a fiber-optic network.

Cox also is involved in a satellite direct-broadcast service, Primestar, that expands entertainment choices with a mini-dish satellite antenna.

Cox is in the midst of a $26 million fiber-optic rebuilding of its local network, targeted for completion in mid-1996.

"I guess we're positioning ourselves now to be a better cable operator," Bialis said. "That's kind of our strategy here. If we do that well, if the competition comes, we hope to be well-prepared."

Cox Communications Announces Changes

10f2

DOCUMENT 20 OF 76
OKC9626800188
TV
* Cox Communications Announces Changes
264 Words
1819 Characters
09/22/96
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* Cox Communications has finished a 4 1/2 -year, multimillion-dollar system upgrade. There are some channel changes that will go into effect Thursday.

Among the changes are three new channels.

MSNBC will be available on channel 42. The new 24-hour news, talk and information network is a Microsoft-NBC partnership.

HGTV, Home and Garden Television will air on channel 58. It offers 24 hours of high-quality programs on everything from remodeling a den to growing roses.

A sixth Pay-Per-View service is being added on channel 74. It will feature one hit movie each day that runs continuously. Some of the upcoming titles include "Sabrina," "White Squall," "Diabolique," "Mr. Holland's Opus" and "Mr. Wrong."

Channels effected by the changes are:

- BET, previously on channel 5, is moving to channel 50. The Prevue Guide, previously on 42, will be seen on channel 5.

- On channel 14, currently OETA and C-SPAN II, C-SPAN II will be replaced with OETA prime time, which will air from midnight to 6 a.m., effective Oct. 1. C-SPAN II will be seen on channel 48.

- Texas Ranger baseball has been airing on channel 58. Since that channel is designated for HGTV, effective Thursday, the four remaining Texas Ranger games scheduled Thursday through Sept. 29 will air on channel 59.

* Additional news from Cox Communications, Multimedia Cablevision and KWTV (9): The three have joined forces to offer continuous, in-depth coverage of the Nov. 5 general election. Previous joint efforts include coverage of major 1994 elections, from the lottery vote in May through the general election in November and last Tuesday's runoff elections.

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Source: Daily Oklahoman, September 22, 1996

THE SUNDAY OKLAHOMAN

BUSINESS & REAL ESTATE APRIL 21, 1996

Cox Chooses City for High-Tech Movie Screenings

By Jim Stafford
Staff Writer

It's after midnight, and all the video stores are closed. Your intentions were to rent that Oscar winner you've wanted to see, but now it appears you are out of luck.

Maybe not.

Cox Communications of Oklahoma City has been chosen as one of two locations worldwide to serve as a test site that will bring to a limited number of customers such advanced telecommunications services as videos on demand, officials said last week.

Beginning in March 1997, a handful of Cox Communications' subscribers will get a taste of the telecommunications future, which will bring together voice, video, data and interactive services in one package.

Swedish telecommunications manufacturer Ericsson Inc. and Cox Communications will jointly test the futuristic service using the local fiber optic-coaxial network installed by Cox and equipment manufactured by Ericsson.

The test may involve no more than 50 of the more than 108,000 Cox Oklahoma City cable TV subscribers, said Jeff Storey, general manager of Cox Fibernet, a Cox Communications subsidiary that provides telecommunications services to businesses.

"This is not a marketing trial, this is a technology trial," Storey said. "We are trying to work with Ericsson to help them develop the next generation of technology, to tell them how it should work and what it should do and what types of services it needs to support."

Equipment involved uses what is known as "asynchronous transfer mode" (ATM) switching equipment, which will provide two-way communications over the Cox Communications network.

Storey called it "broad-band" communications that will allow, for example, video on demand so late-night movie fans can make their selection at any time from a potentially long list of titles.

The service also would allow consumers to stop and start videos in a fashion similar to the way a VCR operates.

In addition, the Cox-Ericsson venture will test such features as simultaneous voice and computer data transmission.

Other uses include home energy-use monitoring for utilities, as well as providing "tele-commuting" services for people who need a high-speed data link between home and office.

The Ericsson equipment is designed to fold all of these technological advances into one service, while the extensive fiber optic-coaxial cable network maintained by Cox provides the link to consumers.

Cox is capable of delivering many of the services today, but that involves purchasing equipment from several different manufacturers to make it a reality, Storey said.

The test will be limited to a handful of Cox Communications Oklahoma City subscribers, in part because "it's going to have bugs," he said.

"We don't want to hype it; we're doing it for the right reasons," he said. "We want to see if it works. This is truly technology research."

Storey has traveled to Sweden to consult with Ericsson engineers, and said it is a "huge project" for that company. Ericsson chose a city in France for the other test site.

Why did Oklahoma City make the cut in such a high-tech venture?

"Cox has been very aggressive all along in developing technology and using technology to offer new services," Storey said. "Secondly, they look at our network here and we have *the* premier network ..."

Cox maintains 450 miles of fiber optic and 2,000 miles of coaxial cable in Oklahoma City. It is capable of connecting virtually any home in the city, Storey said.

Dave Bialis, general manager of Cox Communications of Oklahoma City, said selection as a test site is a worthy honor for the city.

"If I were the city fathers or the chamber (of commerce) I would say that's pretty neat, that one of the largest companies in the world has selected Oklahoma City to do a test of what they believe to be the next generation technology," Bialis said. "That is not a small feat."

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PCS A/B Block Auction Results

Winning Bidders by MTA

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Broadband PCS Major Trading Area Designations

Market Number	Major Trading Area	Market Number	Major Trading Area
M001	New York	M026	Louisville-Lexington-Evansville
M002	Los Angeles-San Diego	M027	Phoenix
M003	Chicago	M028	Memphis-Jackson
M004	San Francisco-Oakland-San Jose	M029	Birmingham
M005	Detroit	M030	Portland
M006	Charlotte-Greensboro-Greenville-Raleigh	M031	Indianapolis
		M032	Des Moines-Quad Cities
M007	Dallas-Fort Worth	M033	San Antonio
M008	Boston-Providence	M034	Kansas City
M009	Philadelphia	M035	Buffalo-Rochester
M010	Washington-Baltimore	M036	Salt Lake City
M011	Atlanta	M037	Jacksonville
M012	Minneapolis-St. Paul	M038	Columbus
M013	Tampa-St. Petersburg-Orlando	M039	El Paso-Albuquerque
M014	Houston	M040	Little Rock
M015	Miami-Ft. Lauderdale	M041	Oklahoma City
M016	Cleveland	M042	Spokane-Billings
M017	New Orleans-Baton Rouge	M043	Nashville
M018	Cincinnati-Dayton	M044	Knoxville
M019	St. Louis	M045	Omaha
M020	Milwaukee	M046	Wichita
M021	Pittsburgh	M047	Honolulu
M022	Denver	M048	Tulsa
M023	Richmond-Norfolk	M049	Alaska
M024	Seattle (Excluding Alaska)	M050	Guam-N. Mariana Islands
M025	Puerto Rico-U.S. Virgin Islands	M051	American Samoa

FCC BROADBAND PCS AUCTION
AUCTION ID: 4
ROUND: 112
GENERATED: March 13, 1995 AT: 15:33:36

THESE REPRESENT THE "HIGH" BIDS AFTER SUBMISSION

MRKT	FREQ	BID AMT	NAME	FCC ACCT
M001	B	442712000	WirelessCo, L.P.	2028287453
M002	B	493500000	Pacific Telesis Mobile Service	0943212312
M003	A	372750000	AT&T Wireless PCS Inc.	0223330080
M003	B	385050583	PCS PRIMECO, L.P.	2022933800
M004	A	206500000	WirelessCo, L.P.	2028287453
M004	B	202150000	Pacific Telesis Mobile Service	0943212312
M005	A	81177000	AT&T Wireless PCS Inc.	0223330080
M005	B	86107000	WirelessCo, L.P.	2028287453
M006	A	66616000	AT&T Wireless PCS Inc.	0223330080
M006	B	70907001	BellSouth Personal Communicati	0582067615
M007	A	87500578	PCS PRIMECO, L.P.	2022933800
M007	B	88444000	WirelessCo, L.P.	2028287453
M008	A	121660000	AT&T Wireless PCS Inc.	0223330080

M006	A	121660000	AT&T Wireless PCS Inc.	0223330080
M008	B	127065892	WirelessCo, L.P.	2028287453
M009	A	80951000	AT&T Wireless PCS Inc.	0223330080
M009	B	84995012	PhillieCo, L.P.	2028287452
M010	B	211771000	AT&T Wireless PCS Inc.	0223330080
M011	A	198411000	AT&T Wireless PCS Inc.	0223330080
M011	B	184660483	GTE Macro Communications Corpo	0582107997
M012	A	39674673	WirelessCo, L.P.	2028287453
M012	B	36600012	American Portable Telecommunic	0391706857
M013	A	89786837	American Portable Telecommunic	0391706857
M013	B	99327723	PCS PRIMECO, L.P.	2022933800
M014	A	83888837	American Portable Telecommunic	0391706857
M014	B	82680425	PCS PRIMECO, L.P.	2022933800
M015	A	131723000	WirelessCo, L.P.	2028287453
M015	B	126020126	PCS PRIMECO, L.P.	2022933800
M016	A	87000000	Ameritech Wireless Communicati	0363982954
M016	B	85881000	AT&T Wireless PCS Inc.	0223330080
M017	A	93949001	WirelessCo, L.P.	2028287453
M017	B	89475484	PCS PRIMECO, L.P.	2022933800
M018	A	41932000	AT&T Wireless PCS Inc.	0223330080
M018	B	42733483	GTE Macro Communications Corpo	0582107997
M019	A	118836000	AT&T Wireless PCS Inc.	0223330080
M019	B	114325789	WirelessCo, L.P.	2028287453
M020	A	85043289	WirelessCo, L.P.	2028287453
M020	B	86000001	PCS PRIMECO, L.P.	2022933800
M021	A	28719362	WirelessCo, L.P.	2028287453
M021	B	31665837	American Portable Telecommunic	0391706857
M022	A	64436000	WirelessCo, L.P.	2028287453
M022	B	64502483	GTE Macro Communications Corpo	0582107997
M023	A	33652000	AT&T Wireless PCS Inc.	0223330080
M023	B	33045045	PCS PRIMECO, L.P.	2022933800
M024	A	106355002	GTE Macro Communications Corpo	0582107997
M024	B	105163484	WirelessCo, L.P.	2028287453
M025	A	56899000	AT&T Wireless PCS Inc.	0223330080
M025	B	54672000	Centennial Cellular Corp.	0061242753
M026	A	49262000	AT&T Wireless PCS Inc.	0223330080
M026	B	46577000	WirelessCo, L.P.	2028287453
M027	A	78347000	AT&T Wireless PCS Inc.	0223330080
M027	B	75608434	WirelessCo, L.P.	2028287453
M028	A	43169000	Powertel PCS Partners, L.P.	2056449400
M028	B	43168314	Southwestern Bell Mobile Syste	0751905705
M029	A	35597000	WirelessCo, L.P.	2028287453
M029	B	35278000	Powertel PCS Partners, L.P.	2056449400
M030	A	34155030	Western PCS Corporation	0911658114
M030	B	34139785	WirelessCo, L.P.	2028287453
M031	A	70433000	WirelessCo, L.P.	2028287453
M031	B	71100000	Ameritech Wireless Communicati	0363982954
M032	A	22100031	Western PCS Corporation	0911658114
M032	B	21042973	WirelessCo, L.P.	2028287453
M033	A	54394123	WirelessCo, L.P.	2028287453
M033	B	51950059	PCS PRIMECO, L.P.	2022933800
M034	A	23619168	WirelessCo, L.P.	2028287453
M034	B	23611837	American Portable Telecommunic	0391706857
M035	A	18893000	WirelessCo, L.P.	2028287453
M035	B	19864000	AT&T Wireless PCS Inc.	0223330080
M036	A	45847030	Western PCS Corporation	0911658114
M036	B	46179852	WirelessCo, L.P.	2028287453
M037	A	46000000	Powertel PCS Partners, L.P.	2056449400
M037	B	44500544	PCS PRIMECO, L.P.	2022933800
M038	A	22290000	AT&T Wireless PCS Inc.	0223330080
M038	B	22176837	American Portable Telecommunic	0391706857
M039	A	8634030	Western PCS Corporation	0911658114
M039	B	8634000	AT&T Wireless PCS Inc.	0223330080
M040	A	12732501	Southwestern Bell Mobile Syste	0751905705
M040	B	12321000	WirelessCo, L.P.	2028287453

M041	A	11111111	Western PCS Corporation	0911658114
M041	B	13142346	WirelessCo, L.P.	2028287453
M042	A	5688000	Poka Lambro Telephone Cooperat	0750806646
M042	B	6191000	WirelessCo, L.P.	2028287453
M043	A	16374000	WirelessCo, L.P.	2028287453
M043	B	15810000	AT&T Wireless PCS Inc.	0223330080
M044	A	10635000	AT&T Wireless PCS Inc.	0223330080
M044	B	11149000	BellSouth Personal Communicati	0582067615
M045	A	4647000	AT&T Wireless PCS Inc.	0223330080
M045	B	5078000	Cox Cable Communications, Inc.	0582112281
M046	A	4393000	AT&T Wireless PCS Inc.	0223330080
M046	B	4901343	WirelessCo, L.P.	2028287453
M047	A	22361030	Western PCS Corporation	0911658114
M047	B	21675432	PCS PRIMECO, L.P.	2022933800
M048	A	17562369	Southwestern Bell Mobile Syste	0751905705
M048	B	16801654	WirelessCo, L.P.	2028287453
M049	A	1000000	American Portable Telecommunic	0391706857
M049	B	1650129	GCI Communication Corp.	0920072737
M050	A	107000	Poka Lambro Telephone Cooperat	0750806646
M050	B	141837	American Portable Telecommunic	0391706857
M051	A	214555	South Seas Satellite Communica	7144994469
M051	B	228001	Communications International C	0911650173

WirelessCo = is now Sprint Spectrum

Final C Band PCS Auction Results

BTA	Market Name	1990 Pops	High Bid	Disc High Bid	$/Pop	A/B $/Pop	Bidder Name
B451	Twin Falls, ID	136,831	3,432,000	2,574,000	18.81		High Country Comm
B353	Pocatello, ID	89,651	1,360,000	1,020,000	11.38		High Country Comm
B392	St. George, UT	83,263	3,363,000	2,522,250	30.29		PCS Plus, LLC
B258	Logan, UT	79,415	369,100	276,825	3.49		PCS 2000, L.P.
Salt Lake City Total-MTA 036		2,575,372	$143,397,400	$107,548,050	41.79	18.0	
Jacksonville MTA							
B212	Jacksonville, FL	1,114,847	50,994,000	38,245,500	34.31		NextWave PCS
B439	Tallahassee, FL	418,963	28,890,001	21,667,501	51.72		Southeast W.C.
B159	Gainesville, FL	260,538	9,525,213	7,143,910	27.42		NextWave PCS
B340	Panama City, FL	171,195	5,480,000	4,110,000	24.01		Southeast W.C.
B454	Valdosta, GA	139,226	2,252,011	1,689,008	12.13		SOWEGA WC
B467	Waycross, GA	99,034	769,001	576,751	5.82		Savannah Ind PCS
B058	Brunswick, GA	71,130	1,643,100	1,232,325	17.32		KMTel L.L.C.
Total Jacksonville-MTA 037		2,274,933	$99,553,326	$74,664,995	32.82	20.2	
Columbus MTA							
B095	Columbus, OH	1,477,891	60,634,000	45,475,500	30.77		NextWave PCS
B342	Parkersburg, WV-Marietta, OH	180,025	2,528,000	1,896,000	10.53		The Chillicothe
B487	Zanesville-Cambridge, OH	178,179	1,869,000	1,401,750	7.87		The Chillicothe
B023	Athens, OH	123,864	1,809,100	1,356,825	10.95		The Chillicothe
B080	Chillicothe, OH	93,579	2,150,000	1,612,500	17.23		The Chillicothe
B281	Marion, OH	92,023	1,615,000	1,211,250	13.16		Miccom Assoc.
Total Columbus-MTA 038		2,145,561	$70,605,100	$52,953,825	24.68	10.4	
Albuquerque MTA							
B008	Albuquerque, NM	688,612	34,310,000	25,732,500	37.37		BDPCS, Inc.
B128	El Paso, TX	649,860	34,330,000	25,747,500	39.62		NextWave PCS
B244	Las Cruces, NM	197,166	9,708,001	7,281,001	36.93		NextWave PCS
B407	Santa Fe, NM	174,526	8,390,000	6,292,500	36.05		BDPCS, Inc.
B139	Farmington, NM-Durango, CO	162,776	5,629,000	4,221,750	25.94		PCS Plus, LLC
B162	Gallup, NM	122,277	2,423,000	1,817,250	14.86		PCS Plus, LLC
B386	Roswell, NM	70,068	1,566,016	1,174,512	16.76		PVT Wireless Ltd.
B068	Carlsbad, NM	48,605	695,000	521,250	10.72		High Country Comm
Total Albuquerque-MTA 039		2,113,890	$97,051,017	$72,788,263	34.43	4.1	
Little Rock MTA							
B257	Little Rock, AR	852,026	30,147,000	22,610,250	26.54		DCR PCS, Inc.
B153	Ft. Smith, AR	282,187	6,214,001	4,660,501	16.52		DCR PCS, Inc.
B140	Fayetteville-Springdale, AR	222,526	3,043,000	2,282,250	10.26		DCR PCS, Inc.
B219	Jonesboro-Paragould, AR	159,439	2,471,000	1,853,250	11.62		DCR PCS, Inc.
B348	Pine Bluff, AR	152,918	2,041,000	1,530,750	10.01		Omnipoint PCS
B193	Hot Springs, AR	117,439	2,515,000	1,886,250	16.06		PCS Plus, LLC
B125	El Dorado-Magnolia, AR	108,810	1,128,000	846,000	7.78		Eldorado Comm.
B387	Russellville, AR	81,863	776,000	582,000	7.11		PCS Plus, LLC
B182	Harrison, AR	74,459	526,000	594,500	5.30		PCS Plus, LLC
Total Little Rock-MTA 040		2,051,667	$48,861,001	$36,645,751	17.86	6.2	
Oklahoma City MTA							
B329	Oklahoma City, OK	1,305,472	41,911,000	31,433,250	24.08		NextWave PCS
B248	Lawton-Duncan, OK	177,830	2,408,111	1,806,083	10.16		Comtel PCS Main
B130	Enid, OK	85,998	381,000	285,750	3.32		National Teleco.
B019	Ardmore, OK	83,979	2,205,000	1,653,750	19.69		OnQue Comm.
B433	Stillwater, OK	72,552	1,230,000	922,500	12.72		MBO Wireless
B004	Ada, OK	52,677	1,044,000	783,000	14.86		OnQue Comm.
B267	McAlester, OK	50,914	1,032,000	774,000	15.20		OnQue Comm.
B354	Ponca City, OK	48,056	416,000	312,000	6.49		Mark M. Guest
Total Oklahoma City-MTA 041		1,877,478	$50,627,111	$37,970,333	20.22	7.0	
Spokane MTA							
B425	Spokane, WA	612,862	15,711,101	11,783,326	19.23		Cook Inlet WW
B041	Billings, MT	290,242	4,281,111	3,210,833	11.06		POLYCELL COMM.
B171	Great Falls, MT	161,038	853,333	640,000	3.97		MCG PCS, Inc.
B460	Walla Walla, WA	151,563	1,747,003	1,310,252	8.64		Cook Inlet WW
B228	Kennewick-Pasco, WA	150,033	1,917,000	1,437,750	9.58		OnQue Comm.
B300	Missoula, MT	139,270	1,052,000	789,000	5.67		USA Micro-Cell
B250	Lewiston-Moscow, ID	110,028	716,100	537,075	4.88		PCS 2000, L.P.
B064	Butte, MT	65,252	347,777	260,833	4.00		MCG PCS, Inc.
B053	Bozeman, MT	65,077	2,286,001	1,714,501	26.35		Mountain Sol.
B224	Kalispell, MT	59,218	954,001	715,501	12.08		Mountain Sol.
B188	Helena, MT	58,752	1,544,000	1,158,000	19.71		Mountain Sol.
Total Spokane-MTA 042		1,863,335	$31,409,427	$23,557,070	12.64	3.3	
Nashville MTA							
B314	Nashville, TN	1,429,309	80,163,938	60,122,954	42.06		Chase Telecomm.

Final C Band PCS Auction Results

BTA	Market Name	1990 Pops	High Bid	Disc High Bid	$/Pop	A/B $/Pop	Bidder Name
B083	Clarksville, TN	220,469	5,570,358	4,177,769	18.95		Chase Telecomm.
B096	Cookeville, TN	117,613	1,742,072	1,306,554	11.11		Chase Telecomm.
Total Nashville-MTA 043		1,767,391	$87,476,368	$65,607,276	37.12	9.3	
Knoxville MTA							
B232	Knoxville, TN	948,055	31,820,421	23,865,316	25.17		Chase Telecomm.
B229	Kingsport-Johnston City, TN	652,639	11,366,464	8,524,848	13.06		Chase Telecomm.
B295	Middlesboro-Harlan, KY	121,217	2,242,019	1,681,514	13.87		Chase Telecomm.
Total Knoxville-MTA 044		1,721,911	$45,428,904	$34,071,678	19.79	6.5	
Omaha MTA							
B332	Omaha, NE	905,991	33,747,300	25,310,475	27.94		DCR PCS, Inc.
B256	Lincoln, NE	309,515	10,210,495	7,657,871	24.74		21st Century
B167	Grand Island-Kearney, NE	141,541	5,930,000	4,447,500	31.42		21st Century
B323	Norfolk, NE	112,526	1,086,000	814,500	7.24		USA Micro-Cell.
B325	North Platte, NE	80,249	2,065,795	1,549,346	19.31		21st Century
B185	Hastings, NE	72,833	1,240,101	930,076	12.77		USA Micro-Cell.
B270	McCook, NE	36,618	895,950	671,963	18.35		21st Century
Total Omaha-MTA 045		1,659,273	$55,175,641	$41,381,731	24.94	3.1	
Wichita MTA							
B472	Wichita, KS	597,494	12,843,116	9,632,337	16.12		Omnipoint PCS
B396	Salina, KS	145,408	1,601,000	1,200,750	8.37		Aer Force Comm.
B200	Hutchinson, KS	125,094	588,000	441,000	3.53		Kansas PCS
B163	Garden City, KS	65,059	486,000	364,500	5.60		TWS, LLC
B187	Hays, KS	60,926	656,000	492,000	8.08		Mountain Sol.
B253	Liberal, KS	53,960	425,000	318,750	5.91		GLOBAL INFOTECH
B170	Great Bend, KS	40,779	255,000	191,250	4.69		FAMS & ASSOC.
B114	Dodge City, KS	37,454	136,500	102,375	2.73		CELLUTECH
Total Wichita-MTA 046		1,124,174	$16,990,616	$12,742,962	11.34	4.4	
Honolulu MTA							
B192	Honolulu, HI	836,231	71,459,000	53,594,250	64.09		DCR PCS, Inc.
B190	Hilo, HI	120,317	4,815,016	3,611,262	30.01		DCR PCS, Inc.
B222	Kahului-Wailuku-Lahaina, HI	100,504	10,336,000	7,752,000	77.13		CH PCS, Inc.
B254	Lihue, HI	51,177	3,350,000	2,512,500	49.09		New Wave PCS
Total Honolulu-MTA 047		1,108,229	$89,960,016	$67,470,012	60.88	20.2	
Tulsa MTA							
B448	Tulsa, OK	836,559	42,492,002	31,869,002	38.10		Cook Inlet WW
B311	Muskogee, OK	149,267	7,873,001	5,904,751	39.83		Cook Inlet WW
B088	Coffeyville, KS	63,504	580,732	435,549	6.86		Cook Inlet WW
B031	Bartlesville, OK	48,066	286,002	214,502	4.46		Cook Inlet WW
Total Tulsa-MTA 048		1,096,396	$51,231,737	$38,423,803	35.05	16.0	
Anchorage MTA							
B014	Anchorage, AK	388,943	6,563,000	4,922,250	12.66		Americall Int.
B136	Fairbanks, AK	92,111	750,000	562,500	6.11		Americall Int.
B221	Juneau-Ketchikan, AK	68,989	830,150	622,613	9.02		LORALEN CORP.
Total Anchorage-MTA 049		550,043	$8,143,150	$6,107,363	11.10	3.0	
Guam MTA							
B490	Guam	133,000	1,431,000	1,073,250	8.07		DCR PCS, Inc.
B493	Northern Mariana Islands	43,000	563,000	422,250	9.82		DCR PCS, Inc.
Total Guam-MTA 050		176,000	$1,994,000	$1,495,500	8.50	0.8	
Samoa MTA							
B492	American Samoa	47,000	548,001	411,001	8.74		NATIONAL TELECOM
Total Samoa-MTA 051		47,000	$548,001	$411,001	8.74	4.9	
Grand Total		252,556,719	$13,428,945,122	$10,071,708,842	39.88	15.5	

10TH STORY of Level 1 printed in FULL format.

November 14, 1994

SECTION: Vol. 15 ; No. 46 ; Pg. 53; ISSN: 0276-8593

LENGTH: 740 words

HEADLINE: Multimedia's $ 150M rebuild; Multimedia Cablevision Inc.

BYLINE: Dawson, Fred

BODY:

HFC Net To Support 750-MHz, Telephony

Multimedia Cablevision has embarked on a $ 150 million state-of-the-art expansion of its entire cable base with an eye on including telecom as well as traditional entertainment services for future business operations.

The MSO, a subsidiary of broad-based entertainment company Multimedia Inc., will be installing hybrid fiber/coaxial networks with fiber penetrating to 500 home serving areas in support of 750-MHz RF distribution, said Ron Marnell, the MSO's vice president of operations. The project encompasses all Multimedia systems in its five states of operation -- Kansas, Oklahoma, Indiana, Illinois and North Carolina.

In addition, Marnell said, the company is pushing ahead with completion of an alternate access network in its home territory of Wichita, Kan., where it has been serving customers in a venture with Adelphia Communications subsidiary Hyperion Telecommunications since last spring. "We'll complete this ahead of the system rebuild," he said.

Marnell said the focus of Multimedia's cable operations for the foreseeable future will be traditional entertainment services, but he made clear the MSO is putting in place "future proof" networks that will accommodate whatever business expansion makes sense as market conditions change. This might eventually include residential telephony as well as digital interactive services.

"Quite some time back we realized how competition was going to be a factor, and we made a decision to be a player in the future technologies," Marnell said. "By the time the regulatory areas get around to catching up, the networks will be in place to take us where we need to go."

The company, the 30th largest MSO with about 411,000 subscribers, has taken the better part of two years to formulate its plans, Marnell said. "Maybe we're a little earlier in getting our network to high capacity," he added, "but we began on the principle that we can't just throw money at our problems without a long-term strategy."

The company's expansion planning began with recognition that something had to be done, given the age of many systems and capacity limits that hover in the 35- to 40-channel range.

General Instrument Corp. is supplying the distribution and optoelectronic components for the expansion. Marnell said Multimedia is still weighing options with regard to set-top terminals, although, he added, "interdiction has definitely been ruled out."

The company hasn't set a timeframe for conversion to digital distribution, Marnell said. As the network rebuilds reach completion next year and into 1996, the plan calls for continuing in an all-analog format but with new tiering and packaging strategies that take advantage of the expanded capacity. Marnell declined to go into detail about future programming strategies.

But he made clear that, where digital services are concerned, the MSO is counting on satellite systems for "headend-in-the-sky" support. "There's still a question of scale economics as to how small a system can be and still support digital operations on its own," he said.

Multimedia is "tightly clustered" in most of its markets, Marnell noted, but usually those clusters exist within larger conglomerations of cable systems where there is no certainty that a neighboring cable company will want to pursue the same service strategies. As a result, he said, it's important that Multimedia be positioned to act on its own, which the headend-in-the-sky concept makes feasible.

While Tele-Communications Inc. is the only entity "to step up to the plate," Marnell said it is possible other options for satellite delivery of a digital service package to cable systems will emerge.

"It might be that some player who has announced DBS service would make the service compatible with the headend concept," he said.

So far, Multimedia's foray into telecommunications in Wichita has gone smoothly, prompting the company to move quickly to complete wiring of the entire city for SONET-based (synchronous optical network) transport. Marnell said a separate group under Multimedia Hyperion Telecommunications is charged with telecom marketing and customer service, but construction and maintenance are handled by the cable system's workforce.

With all of the downtown area and the eastern half of the city complete, there is considerable demand pressure from the business sector to finish the job, Marnell said.

SIC: 4841 Cable and other pay TV services

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November 2, 1994

SECTION: ISSN: 1069-6644

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HEADLINE: FYI:

BODY:

Wichita, KS-based Multimedia Cablevision will use GI distribution and Cableoptics technology (valued at roughly $30mln) to upgrade about 8,000 miles of broadband networks in 5 states--KS, OK, IL, IN and NC--during the next 3 years. - CTAM NY and WIC will host the 2nd Battle Of The Bands 12/7/94 at 6:30 p.m. EST in NY. The bands will comprise top execs from Showtime, CNBC, HBO, CourTv, Comedy Central and A&E. For more info, call Rebecca Kramer or Lloyd Trufelman at 212/818-9151. - Time Warner Cable (TWC) and BBN Hark Systems, a subsidiary of Bolt Beranek and Newman, said BBN Hark Systems will develop the system design for integrating speech recognition into TWC's Orlando FSN.

LANGUAGE: ENGLISH

IAC-ACC-NO: 2572106 ND

LOAD-DATE: October 26, 1995

Company plans to run fiber optic cable across city

By STEPHEN ROBERTSON/Staff writer

A subsidiary of an independent telephone company is planning to lay several miles of fiber optic cable inside Lawton as soon as the City Council approves an ordinance allowing it to use city right of way.

Gene D. Housh, vice president of Indian Nations Fiber Optics Inc., said the company has already laid cable to the city limits from Duncan and plans to run cable to its office at No. 9 SW 21st and then on west to provide access to Cameron University, city hospitals, and eventually on west to Altus. With fiber optics, Housh said, local facilities could have access to features such as telemedicine and distance learning offered from the University of Oklahoma Health Sciences Center and the Oklahoma State Regents for Higher Education.

Indian Nations Fiber Optics is a subsidiary of Chickasaw Holding Co. of Sulphur, a privately owned, independent company whose holdings include seven telephone exchanges, a long distance company, a telecommunications equipment company and cellular and radio service providers. Another subsidiary, Telco Supply, is a construction company whose contracts include maintenance of telephone cable at Cameron.

Indian Nations now has 291.5 miles of fiber optic cable, Housh said, including routes to Oklahoma City, Ardmore and Duncan.

Bob Bigham, the city's director of planning, said Indian Nations Fiber Optics is different from other companies because it is not a service-providing utility as are other franchise and operating permit holders, such as Public Service Co. of Oklahoma, Arkla Gas and Lawton Cablevision. Indian Nations Fiber Optics is not asking for a franchise to provide exclusive service.

"This is a real unique thing because all the other utilities we have provide services to known customers," he said.

City Attorney Felix Cruz said a draft ordinance is being prepared that would allow the company, and others like it, to use city right of way.

"We're doing this not for Indian Nations, per se, but for any activity," Cruz said.

A very interested observer is Southwestern Bell Telephone Co., which already has about 50 miles of fiber optic cable around Lawton, including lines from its main office to its west switching office at Southwest 82nd Street and Lee Boulevard and to a remote switch at Southeast 45th Street south of Gore. There are also fiber optic feeds to Fort Sill (including the main switching office and three remote switches that will serve renovated barracks). Intercity lines, such as those from Lawton to Duncan and Oklahoma City, are fiber optic, and the company is working to provide access to Memorial Hospital and Cameron. The company is also examining plans to expand along Lee Boulevard to tie the central and west switching offices and provide access to Great Plains Area Vocational Technical School and the Lawton Municipal Airport.

Gerald Helms, manager of engineering design for Southwestern Bell, said many of the services available on fiber optic cable are also available through specially treated copper cable. Fiber optic cable will be required for some services, such as interactive video.

Southwestern Bell is concerned that another provider could infringe on the company's franchise to be the sole provider of telephone service here and on its certificate from the Oklahoma Corporation Commission.

"It is hard for us to comment since we do not know what Indian Nations' plans are," said Rob Reynolds, local manager for Southwestern Bell. "However, their request may raise legal and regulatory issues that go beyond the Lawton City Council since state law requires companies to get a certificate from the Corporation Commission before they construct telephone lines in areas served by other companies. We have seen no indication that Indian Nations has applied for such a certificate."

But Jack Hester, president of Telco Supply, said Indian Nations won't infringe on services to which Southwestern Bell has an exclusive right. The fiber optic network, he said, is simply a tranamission line that could be leased to companies — such as AT&T and MCI, or even Southwestern Bell — that do have certificates to provide services.

Hester said he's well aware of what services Southwestern Bell has an exclusive right to — they're the same services that Chickasaw Telephone has a right to in its own service area.

"We're just a transporter," he said.

News Media Report
Publication/Station The [illegible] Record
Location [illegible]
Topics ____ Date/Time [illegible]
Comment [illegible]

Competing for communications buck

Photo by Mark H

COMING IN AND GOING OUT: Scott Pulliam. network manager with Brooks Fiber Communications, opens an OC-3 unit whe fiber optic cables come into their central office connecting with every major phone carrier.

By RICHARD BEDARD

Related articles on Pages 8-11

This past February, Congress did what it had not done since 1936 – a year when Franklin Roosevelt was president, Oklahoma was in the grip of the arid Dust Bowl era, and the TV set had not yet made its widespread appearance in America's living rooms.

By a huge margin in both the Senate and the House, it passed a 111-page, far-reaching Telecommunications Act. The new law drew immediate attention for a decency provision: part of the standard hardware of new television sets will be a "V-chip" to screen out raunchy and violent program content.

But the greatest impact of the Telecommunications Act will not be kinder, gentler images flickering on the tube. Rather, it's a pocketbook issue. The act knocked down regulatory barriers and opened up new arenas of competition. Once protected monopolies have been knocked off their perches.

Cable companies, and others, providing complete telephone service, and competing with Southwestern Bell? Look for it soon.

Cox Fibernet, a subsidiary of Cox Communications, will be ready with a full package of phone service in Oklahoma City as early as the first quarter of 1997, said General Manager Jeff Storey. In preparation, the company is laying down 325 additional miles of fiber optic cable, as well as installing a phone system switching device.

One competitive edge that Cox possesses, Storey remarked, is the most extensive fiber optic network in the capital. "There's not a business or residence in Oklahoma City that's more than half a mile away from our fiber," he said.

But Brooks Fiber Communications in all likelihood will beat Cox into the market. In mid-December it expects to begin offering regular public telephone service in Oklahoma City. "We're at the line of scrimmage and ready to snap the ball," said Genera Manager Christopher Hugman.

How the telecommunications servic company, based in St. Louis, poised itse enter this potentially lucrative segment the industry provides an instructive cas study.

Just a few weeks ago, Brooks Fiber s $225 million in senior discount notes. Pa of the sum, Hugman said, will finance it move into providing what they familiar call "pots," or "plain old telephone serv

In Oklahoma, the company will first reach out to businesses in Tulsa and Ok homa City, two of the 30 medium-size cities, across the nation, where it has fib optic networks set up. So far, Brooks Fit has built its business in the data service market, commonly with point-to-point vate lines that send data crosstown, between buildings within a city.

To lure clients for this new venture,

See BUCKS, Page 9

BUCKS

Continued from Page 1

Brooks Fiber plans to undercut Southwestern Bell rates, as well as offer a wider selection of phone services.

At every opportunity, salespeople will push the benefits of fiber optics over Southwestern Bell's traditional copper phone lines. One quality they crow about is a "self-healing" feature: if a construction crew accidentally slices through fiber optic cable, the light signal is often redirected, with no pause in service. And fiber optics, unlike copper, has "massive transmission capabilities."

From a consumer's standpoint, in several critical ways any changeover would be smooth. The telephone number remains the same. And Brooks Fiber has contracted to use Southwestern Bell's operator services, as well as have customers listed in its phone directory.

Getting all the way from the passage of the Telecommunications Act to becoming a local phone service provider has not been easy.

Brooks Fiber had to lay more miles of cable and install the large, costly devices known as switches, which among other things route calls and generate dial tones. Since Southwestern Bell controls key sections of phone line, officials from the two companies had to sign interconnection agreements. The Oklahoma Corporation Commission also had to certify the fiber company's rates, which are now on file, Hugman said.

A number of Oklahoma City customers have already signed up, but Hugman declined to reveal how many.

In the long run, Brooks Fiber hopes to persevere by not making the mistake of becoming all things to all people, despite the freedom suddenly handed out by the Telecommunications Act. The company has its sights set firmly on the business community, and its needs.

"We're not going to rush out and be a cable TV provider," Hugman said. "I don't see a need for businesses to have a lot of cable TV."

Richard Bedard is a correspondent for *The Journal Record*.

[redacted]

Oklahoma City, Oklahoma

Homes passed: 203,321

Customers: 116,081

Franchise Area: Oklahoma City

Community Service Projects:

Christmas in April
Contact Community Help line
Oklahoma City Public Schools Foundation
Cable in the Classroom

Fiber miles: 283

Cable miles: 2101

Oklahoma City is currently undergoing an upgrade to 750 Mhz.

EXHIBIT A

technology, to other telephone companies. U S West Inc., Minneapolis.

But according to Lyndon A. (Continued on Page 46)

Oklahoma Carrier Expands Fiber Net

By Michael Warr

TULSA, OKLA. — Public Service Company of Oklahoma has extended its private fiber optic network and begun to aggressively market excess capacity to other end users and carriers.

The company plans to extend its fiber optic loop in Tulsa from 100 miles to 170 miles this year, thus expanding its role as a private carrier in competition with St. Louis-based Southwestern Bell Telephone Co.

PSO began building its $6 million fiber optic network in 1985. The network—now 100 percent operational—is "undergoing fine-tuning," said Neill Seeber, PSO's manager of telecommunications marketing.

LDX Net Inc., Chesterfield, Mo., has been using PSO's network since March 1986. Tom Parvin, LDX vice president of operations, said LDX Net considered alternatives, including Southwestern Bell, but chose PSO because the utility company was more responsive and willing to move ahead on the project faster than other companies.

Also in Tulsa, Transoak Inc. has been using PSO's fiber capacity for two years and long distance carrier Williams Telecommunications Co. has been on the system for a year.

'Knocking On Doors'

Despite the initial success, PSO has only now begun "knocking on the doors of end users," a PSO spokeswoman said.

Businesses that recently expressed interest in leasing services on PSO's fiber optic network range from internal private networks to large computer operations.

Prospective users include manufacturers, banks, colleges and companies looking to add DS3 capacity to their internal networks. Businesses such as airlines and car rental companies, which staff large reservation centers handling large volumes of incoming calls, are also interested. Government agencies with extensive computer-based systems have requested use of the network to provide network monitoring and emergency backup of their systems.

PSO could not estimate the impact of its alternative access service on Southwestern Bell, and the Bell company declined to comment.

PSO acknowledged that it backed into the alternative access business. In the original plan, PSO claimed, the fiber optic network was intended only to upgrade an existing microwave system in place since 1974.

In 1985, when PSO combined microwave with fiber optics, the system still primarily handled internal communications between company offices, power plants, substations and operations centers throughout the Tulsa area. Many of the internal services previously handled by the microwave radio facilitity are now transmitted over the fiber optic system.

Move Toward Independence

PSO uses synchronous transmission, or Syntran, equipment manufactured by Licom Inc., Herndon, Va., as the primary distribution unit throughout its network. Until now, this equipment was sold only to telephone companies.

Licom hopes the PSO deal will set a trend. At least three other utilities are negotiating with the vendor to buy Syntran equipment, Licom chairman Larry Campbell said.

Licom's IMX30 provides optical transmission and multiplexing between DS3, or 45 megabits per second, and other digital transmission rates, allowing for remote-controlled circuit routing and provisioning (*Communications Week*, Jan. 26 and Feb. 2).

PSO's deployment of the IMX30 in its growing fiber optic network facilitates the company's move toward independence from the local exchange carrier, observers said. It provides the reserve bandwidth that will strengthen PSO's ability to market its spare capacity, said Seeber, who added that the company plans to buy more IMX30s this year.

The IMX30 also eliminates the need for extra multiplexers and a digital cross-connect switch. "The savings are in the neighborhood of 50 percent," Seeber said.

As for its overall internal telecom budget, PSO has not yet calculated how much it will save by operating its own fiber network, but Seeber predicted that savings will come as PSO's needs for information and communications between its metropolitan offices, service centers and manager control centers grow.

"The system will save us money that otherwise would have gone to the local exchange carrier," said Seeber.

PSO Marketing Local Fiber Optic Network

By Bill Sansing
Chronicle Managing Editor

A problem facing the high-speed, high-quality fiber optic networks that serve many cities around the nation might be compared with the deal struck between the Allies and Russians over Berlin access at the end of World War II.

The war victors agreed on the division of the German capital, but the Allies somehow failed to arrange a secure access to the city. The fiber networks pulled a similar error by not arranging to extend their fiber lines all the way to customers' locations within the cities.

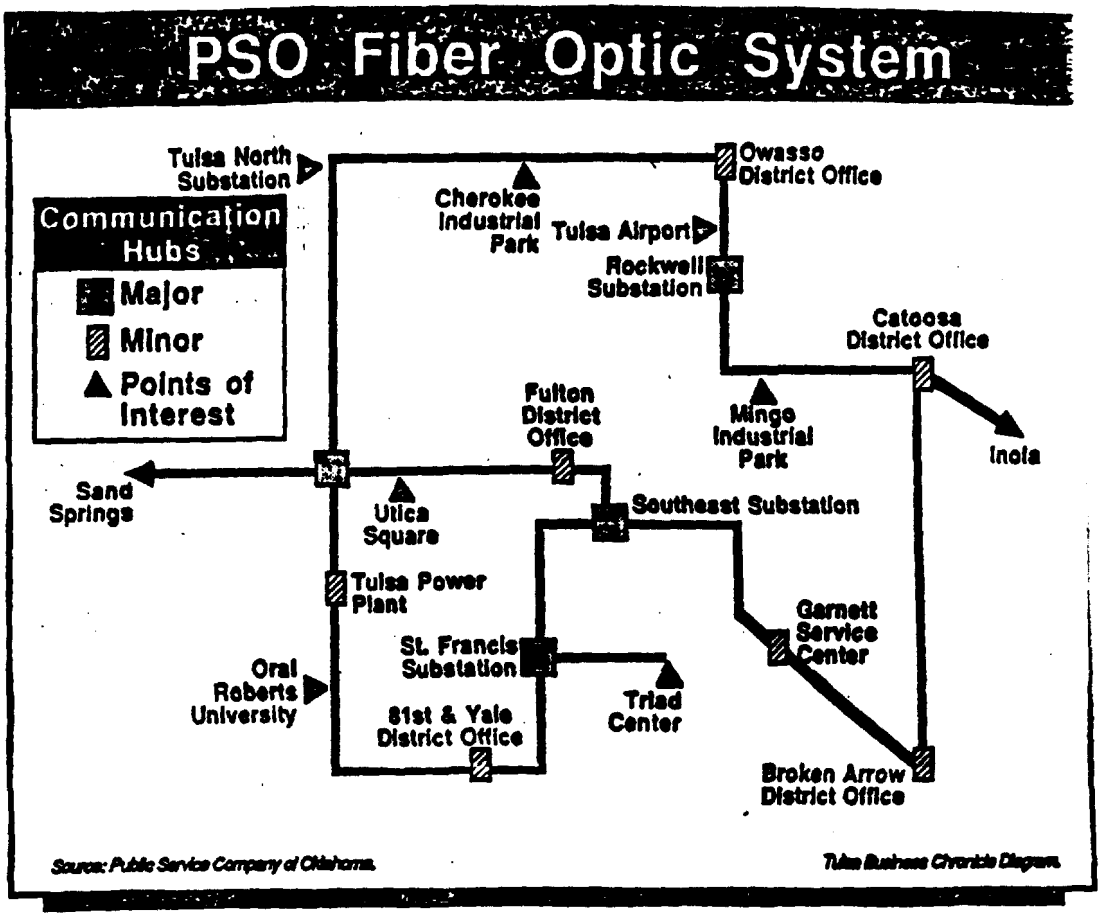
Public Service Co. of Oklahoma took a look at the dilemma in Tulsa and decided it could take advantage of this oversight and at the same time make a reasonable profit by sharing the use of its existing fiber communication system with companies wanting network connections.

THE PSO PLAN, already under way with three clients (Transok, LDX Net and Williams Pipeline), substitutes fiber optic transmission lines for copper wire on the "last mile." Those using copper for this extension lose the numerous advantages of an all-fiber system.

Fiber optics provides a quiet, secure and much faster method of sending voice and data when compared with copper. The method sends information as pulses of light along thin glass fibers.

Two PSO officials, W.R. Stratton, senior vice president-finance, and Neill L. Seeber, manager-telecommunications marketing, discussed the new venture in an interview.

They agreed there is a large Tulsa market for their private-carrier system and estimated that 100 to 250 firms could use the service.



"THERE'S A LOT of market out there," Stratton said. "I don't think we know ourselves what we have because we really haven't tapped all the market potential. There are a lot of data-intensive centers here and they have high-volume data. Those are the people who need it first and have the highest requirements. We will be trying to aim at these people to provide them help."

Seeber said it's felt that the main usage firms will want connections with inter-city systems. "Also there are some businesses in the city that are in diverse locations," he said "Computer power may be in one location and if they have a lot of voice lines or data communications between the locations they would be candidates."

Public Service is the first electric utility in the state that has constructed and operates a fiber network as part of its telecommunications operations. It is one of the few in the nation to offer the service.

STRATTON SAID the system also offers numerous other services such as a sophisticated, computerized monitoring system that automatically locates trouble and dramatically reduces the length of potential service outages.

The fiber optic network can carry more than 400 million bits of data each second and is capable of carrying 6,000 voice conversations at one time.

It was explained that national newspapers, such as the *The Wall Street Journal* and *USA Today*, will find that fiber optic lines are more economical than satellite transmission.

The problem with satellites, the PSO executives say, is that it is a one-way transmission. No question-and-answer situation is available. To make it two-way you would have to put a satellite at the other end to send message up again — an expensive process.

IN THE PSO SYSTEM, data comes into its hub and it is routed to LDX Net, for example, which has the same kind of equipment as PSO. The data then is forwarded to the proper recipient.

Utility rates would not be affected by the success or failure of the PSO fiber communication system, it was stated. Stratton said the system represents an investment of approximately $6 million. About half of the capacity will be used to meet PSO needs in the utility business.

The other half is a stand-alone enterprise. "Whether it prospers or fails won't affect the electric business," Stratton said. "It is not going to take over the electric business. I guess our expectation is that it should carry the cost of the investment, say about $3 million and return us some reasonable profit.

"It's not a big business, but we feel it is significant in what it can do to other businesses in giving them a fiber connector with interstate carriers."

SEEBER OBSERVED that there are only a few cities besides Tulsa that can provide a fiber optic connection. "Other companies are headed in that direction, but it will take them some time to establish a connecting fiber network."

Does PSO consider itself a competitor with Southwestern Bell in the local fiber optics communication system?

Seeber said it depends on how you look at it.

Stratton said, "Competition, the way I look at it, is when you both are doing the same thing. Fiber is an order of magnitude difference in terms of quality, reliability and security and service when compared with the copper-wire approach.

"Bell uses copper and in that sense, yes (there is competition), because there is a choice between the two technologies. But I feel the choice is so easy."

Southwestern Bell has fiber connecting its central offices and transmits in the city between its offices. The company doesn't go out into the community at this point.

THE EXISTING PSO system here extends about 100 miles and there are plans to extend it an additional 20 or 30 miles, the officials disclosed. The extension will be spurs off the basic "backbone" system.

Southwestern Bell also operates a switch network, PSO does not. PSO is involved in private carriage, point-to-point communications.

"We cannot take on customer A and carry his traffic to customer B," Stratton explained. "Customer A can go only on a contracted path without any switching involved. Ours is strictly a pickup service from one location to another."

The PSO system is another link in Tulsa's emergence as a crossroads for nationwide fiber optic systems. Other companies involved in fiber optics include AT&T, US Sprint, MCI, LDX Net and Tulsa-based Williams Telecommunications. LDX Net and WilTel recently announced plans to merge.

US SPRINT RECENTLY ran a fiber line under the Arkansas River. It came from Oklahoma City and will go down 36th Street to the Katy Railroad around 38th Street and Sheridan Road. There, it will follow the railroad through Broken Arrow and out of town.

The line will go five miles down 36th Street through the residential area. It will be buried exactly four feet deep and labeled with special warning tapes.

In contrast, PSO's fiber optic lines will be on its poles and won't disturb any private property. "It goes up nice and slick," says Seeber.

Having its own right-of-way is one of the important assets claimed by PSO.

The hair-thickness fibers are imbedded with Kevlar, a special strong-tensile material with the du Pont trademark. Kevlar also is used to make bullet-proof vests and in other applications where great strength and flexibility are needed.

THERE IS FLEXIBILITY in glass fibers, but they can be broken if bent severely. Neither electrical currents nor heat and cold affect the fibers, however. They are made of special silicon glass that is hand-drawn.

PSO has been in communications business to support utility operations for a decade and has a pool of engineers and technicians to handle the new operation. It has had a microwave transmission network in the state since the late 1970s.

The utility has 800 miles of microwave which when it comes into Tulsa is integrated into the fiber system. Stratton said fiber, itself, probably is too expensive to be installed long distances outside the city just for PSO's own purposes.

EXHIBIT B

New Outfit OK'd to Offer Local Phones

By Melanie Busch
World Staff Writer

The Oklahoma Corporation Commission cleared the way Wednesday for a St. Louis fiber optics company to provide local phone service in Tulsa and Oklahoma City.

Brooks Fiber Properties Inc. is the second company, behind AT&T Corp., that has been approved to compete for local phone service since President Clinton signed the telecommunications act in February. The federal law allows telephone and cable companies to get into one another's business once they receive regulatory approval.

AT&T's application was approved in May. It currently is in arbitration with Southwestern Bell and GTE Southwest Inc. because the companies could not reach agreements on how AT&T

See Brooks on E-6

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would be allowed to offer service using Southwestern Bell's and GTE's networks.

Brooks Fiber Communications of Oklahoma City and Brooks Fiber Communications of Tulsa, subsidiaries of Brooks, should be offering service by the end of the year, said company spokesman Wade Sandrell.

The company is installing central office switch services in both cities.

"Brooks Fiber will be the first full-service competitive telecommunications provider to go online in Oklahoma City and Tulsa, offering the first real choice against the incumbent monopoly phone company," said Brooks Fiber president D. Craig Young.

Brooks must negotiate agreements with the current phone companies serving Oklahoma City and Tulsa including Southwestern Bell Telephone Co. and GTE before offering service.

Sandrell said the agreements should be completed in the "near future."

Brooks currently provides 100 percent fiber-optic networks in Tulsa and Oklahoma City. The networks provide links between telephone companies and businesses.

Sandrell said the company plans to offer phone service to residential as well as business customers in Oklahoma City.

In 1995, the company bought a 105-mile fiber network in Tulsa from MetroLink, a subsidiary of Public Service Co. of Oklahoma. It later expanded it to its current 200-mile length.

Brooks provide local phone service in California, Connecticut and Michigan. It has filed applications similar to the one filed and approved in Oklahoma in several other states.

It has 29 networks either operating or under construction in 16 states. Its plan is to have 30 networks by the end of the year and 50 by the end of 1998.

The telecommunications act also allows local phone companies such as Southwestern Bell to offer long-distance service once they have proven to the Federal Communications Commission they have opened up their networks to competition.

In addition to Southwestern Bell and GTE, 44 other companies sell phone service in designated areas regulated by the Corporation Commission.

SWB OKs Tulsa, OC Competition

By Melanie Busch
World Staff Writer

Brooks Fiber Properties Inc. and Southwestern Bell Telephone Co. said Wednesday they have reached an agreement that will allow the St. Louis-based fiber optics company to offer local phone service in Tulsa and Oklahoma City.

The agreement between the two companies is the first of its kind in Oklahoma. The companies began negotiating in March.

The company could become the first competitive local telephone company in the state if the Oklahoma Corporation Commission approves the agreement. The commission has 90 days to approve or reject the agreement.

If the commission rejects the agreement, the companies can appeal the decision to federal court.

Brooks spokesman Waymon Tipton said the company could begin offering service in Tulsa in mid-November and in Oklahoma City in mid-December.

"The first customers we're going to naturally service is the higher-usage customers, the business customers," he said.

Southwestern Bell-Oklahoma president Dave Lopez said his company embraces competition because it's good for customers and because Southwestern Bell hopes to offer long-distance service in addition to local service in the future.

"It is good news for Oklahoma customers to have this agreement, especially because Brooks Fiber will be making a capital investment in the state by continuing to build its own telephone network," he said.

Tipton said Brooks will offer customers voice, data and videoconferencing service at discounted rates. The company hopes to expand service from only business customers to residential customers.

"It's kind of like we're the telephone company in town," he said.

Oklahoma, like other states, has been preparing for competitive phone service since President Clinton approved the Telecommunications Act of 1996. In addition to allowing competitors

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Southwestern Bell

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to come into local markets, with public utility oversight, the act also allows the Baby Bells to begin offering long-distance service once they prove to regulators they have opened their networks to competition.

Brooks also reached an agreement with Southwestern Bell to offer service in Arkansas.

Southwestern Bell has signed interconnection agreements with 10 companies in four of the five states where it offers service including Texas, Missouri and Arkansas. It has not reached agreement with any competitive provider in Kansas.

Brooks Fiber is the second company behind AT&T Corp. that has been approved to compete for local phone service in Oklahoma.

AT&T's application was approved in May. It is currently in arbitration with Southwestern Bell and GTE Southwest Inc. because the companies could not reach agreements on how AT&T would be allowed to offer service using Southwestern Bell's and GTE's networks.

Brooks, which is installing central-office switch services in Oklahoma City and Tulsa, currently provides 100 percent fiber-optic networks in both cities. The networks provide links between telephone companies and businesses.

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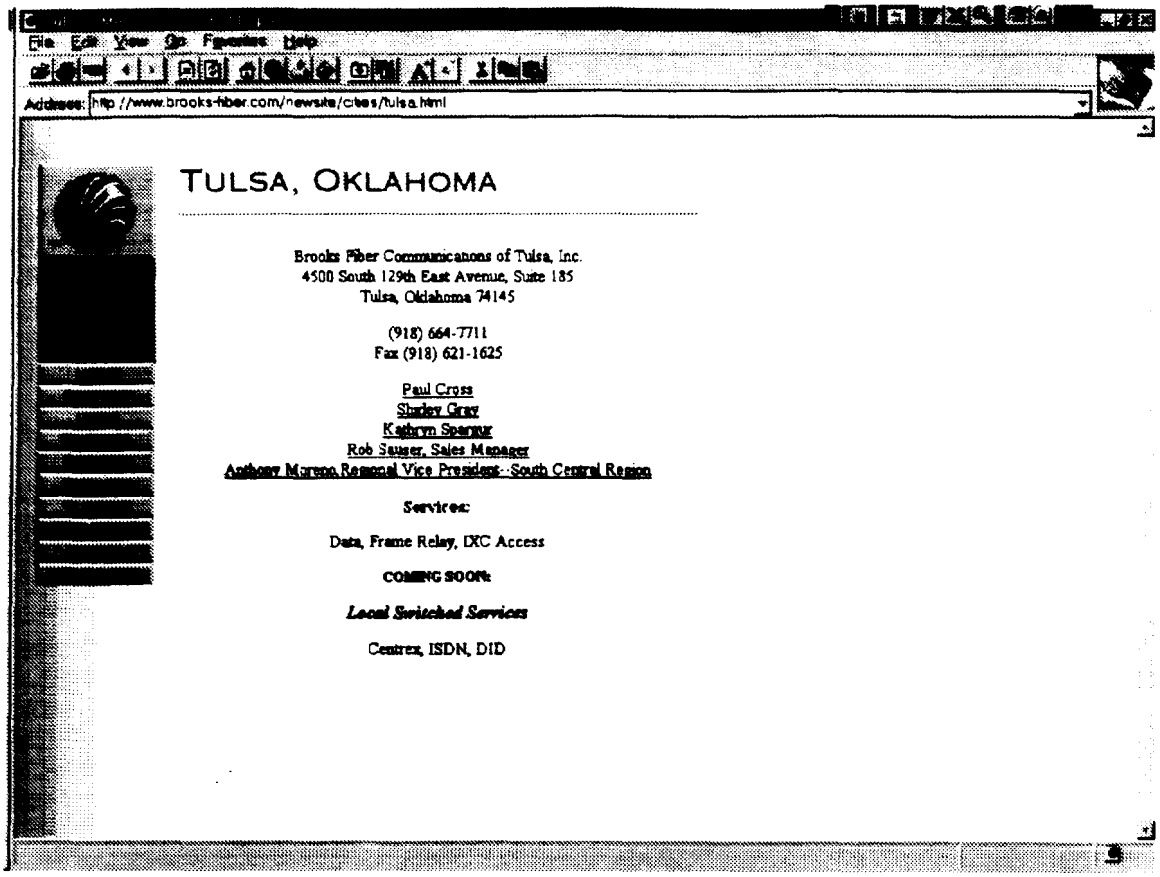
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